

ABSTRACT OF THE DISCLOSURE

A catalytic partial oxidation process for producing synthesis gas is disclosed which comprises passing a light hydrocarbon and oxygen mixture over a composite catalyst to produce a mixture of carbon monoxide and hydrogen. Preferred composite catalysts are prepared by mixing together discrete particles of catalytic metal and of promoter. The resulting catalyst resists deactivation due to reaction between the active metal and the promoter. A catalyst and method for making a catalyst and a method for making middle distillates from light hydrocarbons are also disclosed.